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Editors's note: *Dr. Roger Conant's autobiography,* A Field Guide to the Life and Times of Roger Conant, *appeared last fall and has received rave reviews from all quarters. The CHS* Bulletin *was mightily privileged to be allowed to preview three of the chapters from that work. The memoir below from Dr. Conant did not make it into the autobiography, but is nonetheless entertaining and enlightening, especially so to those of us who are familiar with contemporary Reelfoot Lake.*

If for some reason you have yet to purchase a copy of A Field Guide to the Life and Times of Roger Conant, *you owe it to yourself to do so. It is available from the publisher, Canyonlands Publishing Group, P.O. Box 1957, Sandy, UT 84091, or from Zoo Book Sales, P.O. Box 405, Lanesboro MN 55949, (507) 467-8733.*

Pause at Paducah

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Why we were at Reelfoot Lake in the early spring of 1934 is easily explained. I was serving as Curator of Reptiles as well as General Curator of the Toledo (Ohio) Zoo, and we had just passed through an exceptionally bitter winter with a plethora of subzero temperatures. It felt good to be warm again.

More importantly, the new reptile house, which I had designed with the aid of a master architect, would soon be under roof as the Civil Works Administration, born of the Great Depression, moved onward toward its completion. I would be needing cage furniture for the individual exhibits that I would, in person, install to suggest natural habitats. Cypress knees stood high on my list. Reelfoot Lake, in western Tennessee, was in the midst of a great cypress forest. Also, the lake literally swarmed with turtles, and its shores with water snakes. I knew that, because I had been there the previous year with a field crew from the University of Michigan's Museum of Zoology. We would need many of those reptiles for the opening of our new building.

During previous years, with a small cadre of young men, I had journeyed all over Ohio seeking data and specimens for my anticipated report on "The Reptiles of Ohio." But we never went as early as March. Easter came on April 1 in 1934, however, and the boys would be off from school for spring vacation. I broached the idea of Reelfoot to some of them, and they accepted with enthusiasm. They were three: Barney Gardner, who had been my most frequent companion all over Ohio; Dave Delzell, an excellent driver, who could spell me at the wheel of my little Chevy sedan; and Dick Tallman.

Because there were four of us and room for personal belongings was at a premium, I bought a Kari-Keen trunk, a folding device that fitted at the rear of the car. When it was not in use, it stood upward close to the body, but it could be lowered to accommodate boxes and suitcases. A small tarpaulin covered it to protect the contents from rain. It did extend well beyond the rear bumper, however.

We were off early on a Friday morning and stopped somewhere near the Illinois–Indiana state line to spend the night, I think at a dollar each in a tourist home. The next morning we crossed southern Illinois to Metropolis and then took the bridge over the Ohio River into Paducah, Kentucky, where we had lunch. We all passed up the hog jowls and greens that were featured on the menu.

In those days signs indicating highway route numbers through cities were not in general use, and we soon lost our way. Rather than to wander about aimlessly, I asked the lad sitting next to me to hand me the road map, which was in the glove compartment. Meanwhile, I slowed, signaled by hand that I was stopping, and pulled over to the curb. I had scarcely unfolded the map when a drunken painter in a beat up old car

Our cabin at the Robert Morris Camp, Reelfoot Lake, in 1934. Dave Delzell on the porch is looking at the cypress knees we collected for use in the Toledo Zoo's new reptile house. The Chevrolet sedan in which we made our long trip stands nearby. Photograph by Roger Conant.

Cypress trees at the edge of the lake in early spring. Chickens foraged in the foreground. Photograph by Roger Conant.

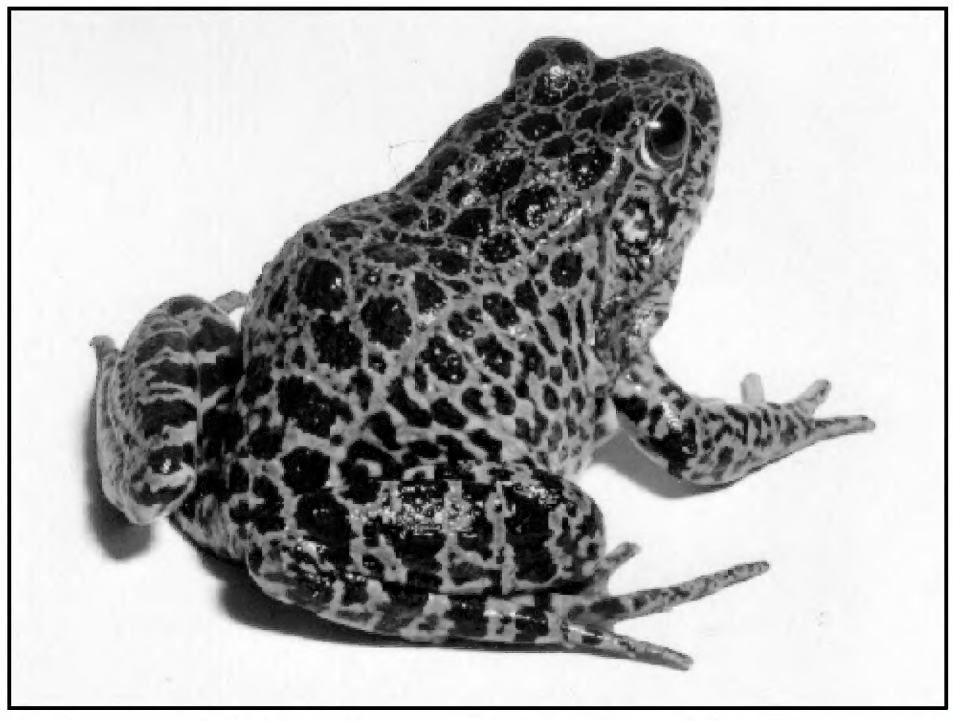
that had been far behind us slammed into us with a loud crash. No one was hurt, thank goodness, but my Kari-Keen trunk looked like an accordion squeezed shut. Our rear bumper was also badly bent.

Apparently the painter had been blindly following us. The front of his jalopy was seriously damaged and it had to be towed. He was so intoxicated that he could barely stand up when he stepped out into the street. We had an abundance of witnesses. Without realizing it, we had stopped right in front of a firehouse, and several of the men were sitting on chairs in front. One of them called the police.

Almost immediately a wrecking car appeared with a hook that could pick up the front or rear end of a damaged vehicle. How did it get there so fast? Had someone heard the echo of the crash? The driver eventually hauled the disabled car away, but I made a note of the address and telephone number, which were lettered on the tow truck. That was in case I needed to keep track of the painter.

When the police arrived, they frisked the drunk, put him in the back seat of their prowl car, and pulled a pocket flask of booze from under the seat as "evidence." Since my car was operable, they gave me permission to follow them to the station house. There the painter was locked up.

The cops told me how to find the Chevrolet agency, and they also recommended a primitive and inexpensive motel at the edge of Paducah. At the Chevy place, which was on a six-day working week, just as we were at the zoo, they pulled out the Kari-Keen trunk as best they could, but it was beyond repair. The tarpaulin survived intact, however, and, with a rope they gave us, we were able to cover our gear, which consisted mostly of clothing and rubber boots. They also managed to fix my rear bumper, which took them more than two hours. For all that they wanted $75.00, which we didn't have. Instead of sending a Western Union telegram for money at once, I decided to wait. We had to stay in Paducah for much of the weekend in any event. So I left my Hamilton watch as security, and we repaired to the motel suggested by the police, after first buying sandwiches and a few apples.



Northern crawfish frog, *Rana areolata circulosa*, of the same taxon as those found at Paducah, but from a different locality. Photograph by Isabelle Hunt Conant.

The place was primitive to say the least. We had a small cabin with four cots. We entered just in time to avoid a torrential rain that lasted more than an hour and then cleared. Woods and fields were visible from our cabin window, at least when we first arrived. When the downpour stopped it was dark, but we ventured out and immediately heard a loud, snoring din. Frogs were calling. We soon located them with our flashlights, which, miraculously, had survived. They were fat crawfish frogs, *Rana areolata circulosa*, with enormous vocal sacs. We watched them for quite a while and then caught three to take back as voucher specimens. It was well that we did because, although we didn't know it at the time, that species hadn't previously been reported from Kentucky.

It was chilly when we awakened early in the morning. A cold front had moved in following the rain. Fortunately, the cabin was equipped with an old-fashioned, pot-bellied stove, and there was plenty of kindling and sticks of wood to fit. We soon had a good fire going and warmed up rapidly. We didn't tarry long, however, because we wanted to eat breakfast before I had to be at the police station at 9:00 A.M. The cops had told us that was the time when the Justice of the Peace, or whatever his title was, would begin processing all the occupants of the bull pen who had been arrested on Saturday for being drunk and disorderly. He had been apprised of our problem, and he ordered the painter to find $75.00 and give it to me. It was almost Sunday noon before his son came to his rescue, and I was paid. The watchman at the Chevrolet agency, by prearrangement, accepted the money, gave me a receipt, and I retrieved my watch. At last we were off again, and our destination was not too far away.

Reelfoot Lake had a turbulent birth in conjunction with the severe New Madrid earthquake, which started on December 16, 1811, and continued at intervals for months. There was a series of tremors, some of them violent, that depressed a large section of land close to the Mississippi River. Eventually the "Father of Rivers" broke through, and for three days flowed from its normal channel to fill the new slender lowland near its eastern bank.

When the earth shook, the human inhabitants had difficulty walking and they felt like the club-footed Indian called Reelfoot who lived in the region. The newly formed lake was promptly named for him.

There is a fault line that may eventually cause trouble again. Some geologists have stated that the modern city of Memphis would be leveled if it were subjected to such severe stresses as those that brought Reelfoot Lake into existence.

The lake is less than three miles from the Mississippi River at its closest point. From north to south it extends for 28 miles and is about seven miles wide near the southern end where it is deepest—up to 30 feet in places. The shape of the lake is highly irregular with numerous islands, coves, and promontories. A narrow bayou connects a small upper body of water with the main lake. Spillways provide exits for excess water after heavy rains.

When we saw Reelfoot Lake, its condition was still primitive, and much of it was undisturbed. The cypress forest was

The tricky, double-hinged oars that made it possible to row and see where you were going at the same time. Dick Tallman supplied the motive power; Barney Gardner with a dip net at the bow. Photograph by Roger Conant.

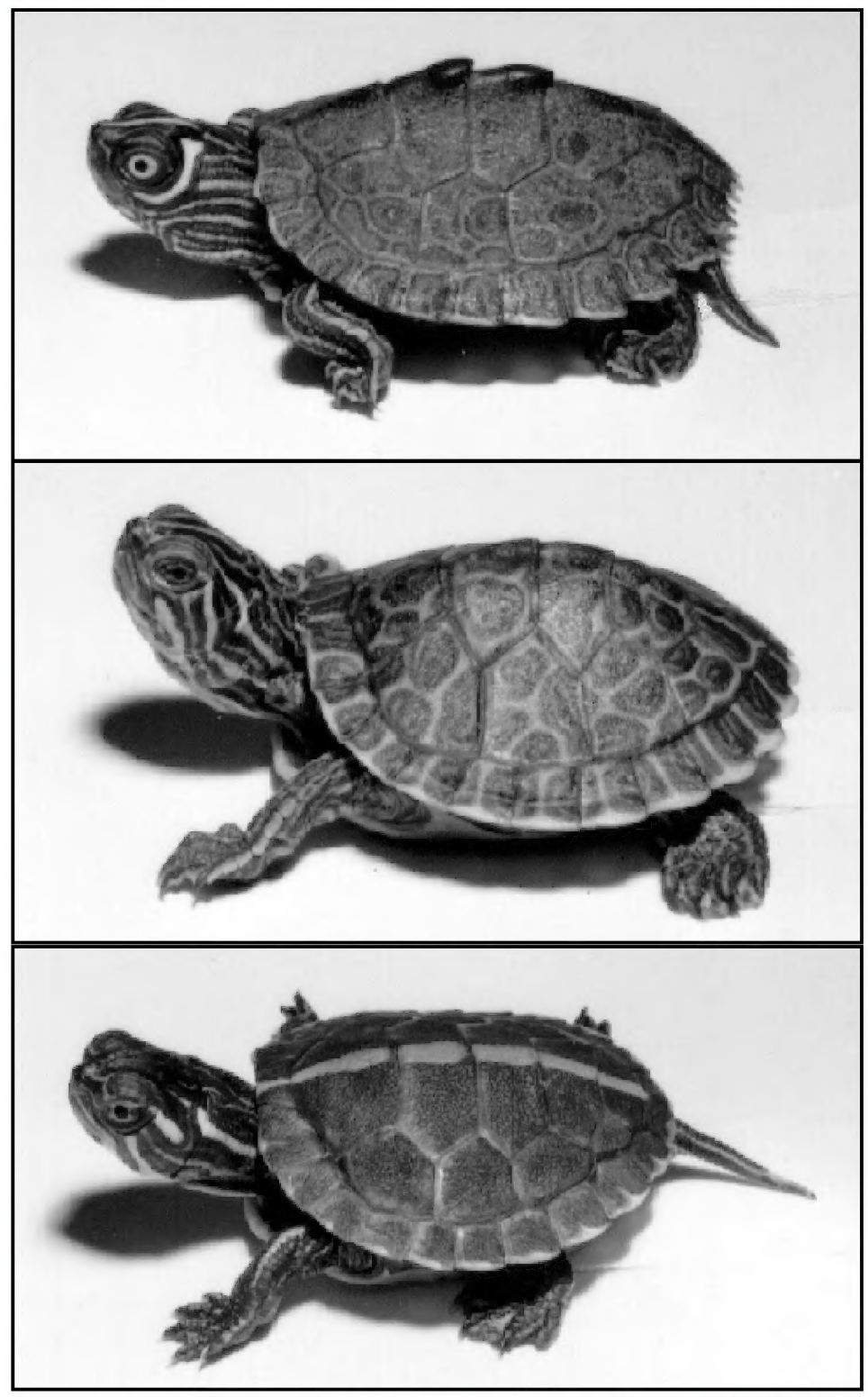
superb, clouds of northward migrating birds had stopped among the rushes and other emergent vegetation, and on the open water. Turtles were so abundant that, during the warmer part of any sunny or partly cloudy day, it was always possible to count 100 or more of them, either basking or with their heads extending above the surface of the water.

We made our headquarters at the fishing camp of Robert Morris. He rented us a cabin at a very reasonable price and let us use his rowboats. How extraordinary they were. Each oar had two hinges in it, and when a person rowed he was looking at where he was going. He wasn't facing backward, the standard way in ordinary rowboats. They were designed for hunters who came in abundance during the open season on waterfowl. They were also just right for fishermen and turtle hunters, which we promptly became.

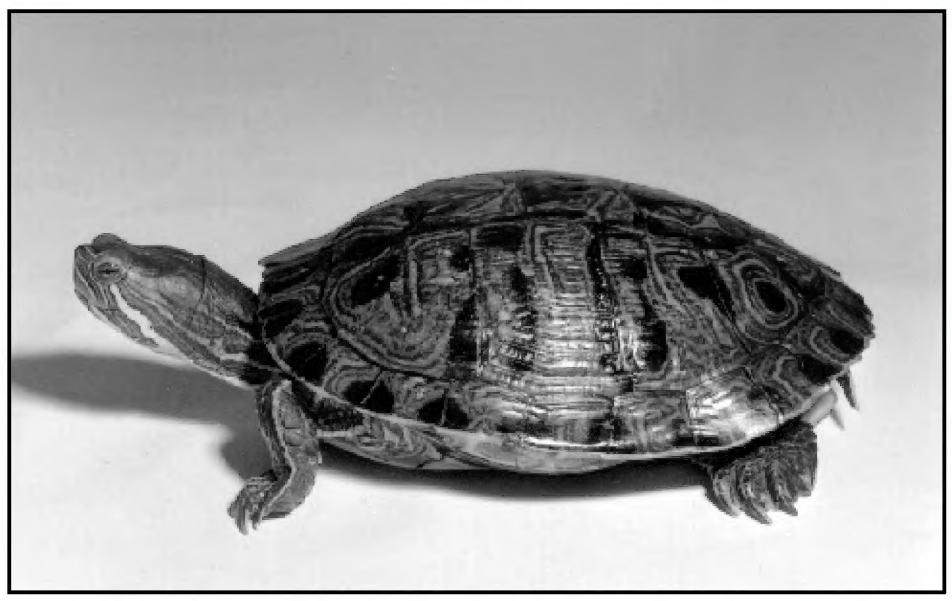
Most abundant were red-eared sliders, *Trachemys scripta elegans*, a species destined to be exploited like no other turtle on earth. Hundreds of millions of hatchlings have been sold in pet and other shops, almost all eventually to die of starvation or malnutrition. Now that the sale of turtles less than four inches in length is banned in the United States because they may carry salmonella, the vendors are peddling millions overseas. Escapees or those intentionally liberated have established the species in Europe, Asia, and South Africa, as well as in many places in our own country where it normally doesn't occur.

We soon discovered that we were not the only turtle hunters. Female adult turtles were caught and kept in pens until they laid their eggs; these were incubated until they hatched and were marketable. A few conscientious merchants probably returned the mothers to the lake, but Norman E. Hartweg, leader of our party in 1933, told us a horrendous tale. On a previous trip to Reelfoot he found several turtles hacked open with a hatchet or similar instrument, the eggs had been removed, and the adults left to die. The eggs evidently had been taken to the incubators.

Large turtles, especially cooters, were salable for turtle races or for supplementing the gourmet dishes prepared from the far more expensive diamondback terrapins of the salt marshes bordering the Atlantic and Gulf coasts of the southern United States. Turtles were captured in any way possible. Traps were used, and Barney and Dave, while out together in one of the rowboats, discovered hundreds of fishhooks nailed to floating logs. They liberated a score of turtles caught by the webbing between their toes. Others were hanging from hooks, dead and



Baby turtles, all three of them little more than hatchling in size, that the Conants obtained at Reelfoot Lake in 1953. From top to bottom: Mississippi map turtle, *Graptemys kohnii*; hieroglyphic river cooter, *Pseudemys concinna hieroglyphica* × *metteri*; and southern painted turtle, *Chrysemys picta dorsalis*. Photographs by Isabelle Hunt Conant.



An adult female red-eared slider, *Trachemys scripta elegans*, from Avery Island, Louisiana. Juveniles of this turtle have been sold by the millions as pets for children all over the world. Photograph by Isabelle Hunt Conant.

desiccated, even partially dismembered. Obviously, cruelty meant nothing to the turtle vendors. Profit was all that mattered.

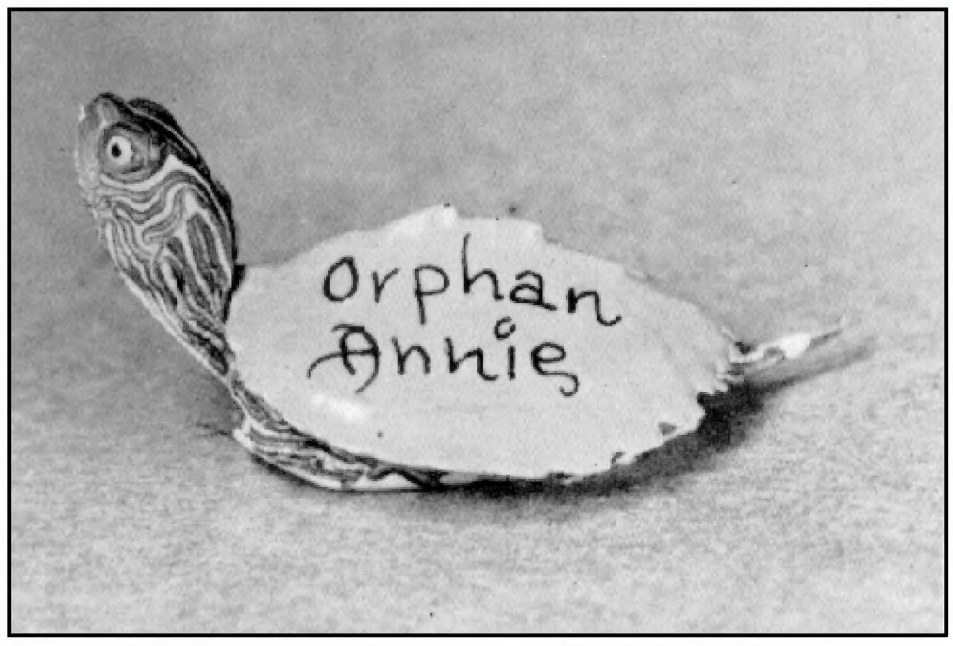
To enhance sales, during a period of several years, carapaces of many of the young turtles were coated with enamel, usually white, and bearing colorful designs or names. They were then sold at much higher prices. If the turtles survived, their shells grew, but the enamel did not. I well recall, during my later and much longer tenure at the Philadelphia Zoo, seeing numerous, grotesquely deformed young turtles that were donated to the zoo after the children, for whom they were purchased, tired of their pets.

The second most abundant species at Reelfoot was the map turtle, *Graptemys pseudogeographica*, but it was far less numerous than the slider. Also present but usually in shallower water was a small sprinkling of southern painted turtles, *Chrysemys picta dorsalis*, each with its bright red longitudinal middorsal stripe.

The discrepancy in proportionate numbers was retained among job lots of hatchlings offered for sale. Red-eared ones were always the most abundant, there was a sprinkling of brown, less colorful, map turtles, and only rarely a baby painted turtle.

While our party was at Reelfoot Lake, we collected a number of each of the three species mentioned, almost all of which were later exhibited in the Toledo Zoo's new reptile house. A few were traded to other zoos. There were also three species of turtles that we didn't catch. One was the common snapping turtle, *Chelydra serpentina serpentina*, and another the musk turtle, *Sternotherus odoratus*, both of which also lived in Ohio. The third species, *Pseudemys concinna*, was so shy and unapproachable that we failed to grab or net any. I will admit, however, that we pilfered a couple from traps. We were so incensed by the brazen cruelty of the turtle vendors that we felt it served them right. Frankly, we were tempted to empty all the traps.

Snakes, although less omnipresent than turtles, were frequently seen along Reelfoot's shoreline, usually close to vegetation into which they could retreat when alarmed or approached. We caught several green and diamondback water snakes,



Whoever enameled "Orphan Annie" didn't even spare her tail. The less colorful map turtles were frequently the victims of this bizarre method of getting more money from potential buyers. Photograph by Mark Mooney, Jr., Philadelphia Zoo archives.

Nerodia cyclopion and *Nerodia rhombifer rhombifer*, respectively. We also found cottonmouths, *Agkistrodon piscivorus leucostoma*. As we walked from our cabin to the lake and back we picked up two rat snakes, *Elaphe obsoleta spiloides*.

As I write these notes about our findings more than 60 years ago, I cannot help but think how their names have changed. I have used the scientific names currently in vogue. Back in 1934 the red-eared turtle was called *Pseudemys troostii*, the cooter *Pseudemys texana*, the rat snake was *Elaphe obsoleta confinis*, and the late Howard K. Gloyd and I had not yet resurrected the old name *leucostoma* for the western populations of the cottonmouth. The cooters at Reelfoot are intergrades between the subspecies *metteri* and *hieroglyphica*. Now we also know that there are two species of *Graptemys* at Reelfoot Lake—*G. kohnii* and *G. pseudogeographica ouachitensis*—but in the 1930s we lumped them together and called them both false map turtles.

The food at Robert Morris's camp was superb. We ate a lot of fish, the freshest we ever had. A small holding pond directly adjacent to his kitchen was equipped with a broad horizontal net tied so that it remained flat when lifted. Up with it came live fishes—bass of several kinds, crappies, catfish, and others. They were killed, scaled, and filleted just before mealtime. The southern cooking was excellent, and even the hominy tasted good to me, when butter and honey were added.

We were having so much fun and success that we hated to leave, even after several days, but we wanted to do a bit of exploring before we had to return home in time for the boys to resume school after Easter. We drove south to Memphis and, because none of us had ever been in Mississippi, we decided to go onward the relatively short distance to cross the border, just to say we had been there. Barney remembers that we stopped at a tiny place that, appropriately for herpetologists, was named Bullfrog. We then backtracked to Memphis and across the great river into Arkansas for our first time. We picked up a few things along the road, some revealed at night by the spotlight on my car, but the herp hunting was disappointing after Reelfoot's bonanza. We reached Kennett in Missouri's southeastern bootheel the second night, slept soundly in a tourist home, and then faced the necessity of making up for the time we had lost in Paducah. Incredible though it may seem, Dave Delzell and I took turns at the wheel for almost 24 consecutive hours, and we were in Toledo, 750 miles away, in time for the boys to be back at school. Admittedly, they were a little groggy, and so was I, after we all had slept as much as possible during the long ride in the car.

Twice in the 1950s my late wife, Isabelle Hunt Conant, and I visited Reelfoot, once merely as a brief stop, but the second time to collect specimens we still needed to photograph for our "Field Guide to Reptiles and Amphibians" in the Peterson series. During those trips, when we were out in rowboats with the tricky oarlocks and were in a cove away from others, the lake seemed much as I had remembered it. But the shoreline was rimmed with countless motels, fishing camps, and even places of amusement. How happy I am to remember Reelfoot Lake of 1933 and 1934 when it was a near wilderness and not overrun with people.

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Tick Removal Behavior by a White-throat Monitor Lizard (*Varanus albigularis*) (Sauria: Varanidae)

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Abstract

Ectoparasite removal by mammals, birds, insects and fish has been observed. Very few observations of ectoparasite removal by reptiles have been made. This paper discusses observations of captive white-throat monitor lizards (*Varanus albigularis*) in their repeated and successful efforts to actively remove ectoparasitic ticks (*Aponomma exornatum)* from their own bodies. Ectoparasite removal by the white-throat monitor, or any member of the family Varanidae, is reported here for the first time. As ectoparasitic ticks are a possible vector for disease transmission in African *Varanus* species, the fact that they are able to remove these parasites from their own bodies is significant.

The white-throat monitor lizard (*Varanus albigularis* Daudin, 1802) is one of the largest carnivores of the Africa savannah habitat, reaching a total length of up to two meters, and weighing up to 16 kg. This large reptilian carnivore is endemic to north-eastern, central and south African savannah habitats (Bayless, in press). The white-throat monitors discussed in this paper originated from Tanzania, East Africa.

The African monitor lizards (Varanidae) are plagued by numerous forms of endo- and ectoparasites (see Loveridge, 1955; Colbo, 1973; Cooper, 1974; Hesse, 1985; Paine, 1982; Simbotwe, 1983; Mutinga and Dipeolu, 1990; Punyua and Latif, 1990). Tick research has primarily concentrated on species that infest domestic animals (e.g., cattle, goats), or are of economic or medical importance. There are three species of tick (Acari: Ixodidae) that primarily parasitize on African monitor lizards: *Amblyomma sparsum*; *Aponomma exornatum*; and *A. flavomaculatum* (Punyua and Latif, 1990).

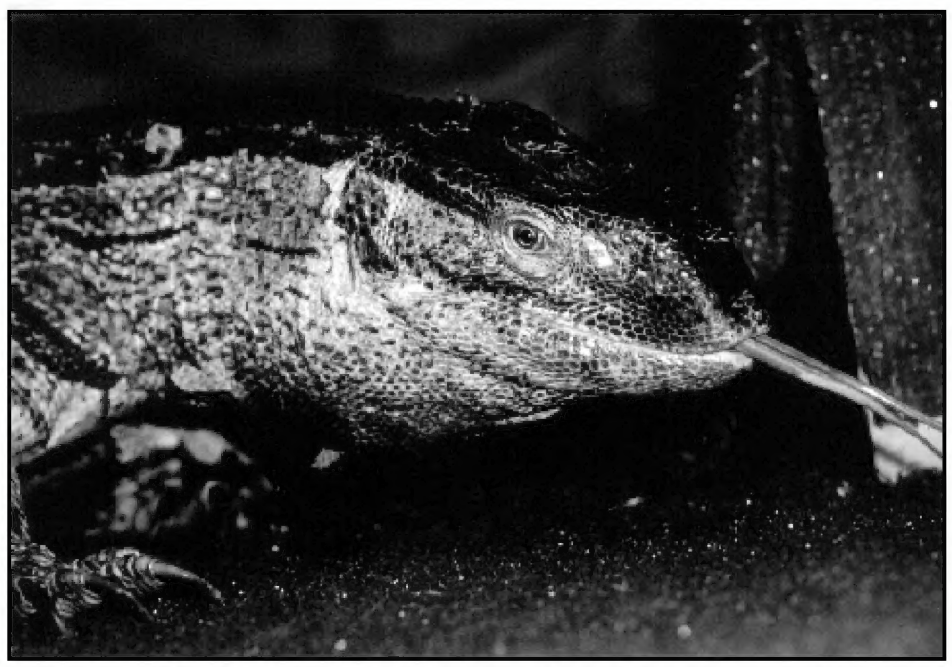
The tick species *Aponomma exornatum* and *A. flavomaculatum* have been observed by these authors to parasitize recently imported savannah monitors (*V. exanthematicus)* and Nile monitors (*V. niloticus*), and have been reported from wild specimens as well (Hesse, 1985; Punyua and Latif, 1990).

Tick removal grooming has been observed in mammals, birds, reptiles, fish and insects (e.g., Mooring, 1995). This paper reports on the active, and repeated, tick removal behavior observed in a 2.1 (two males, one female) group of captive white-throat monitor lizards.

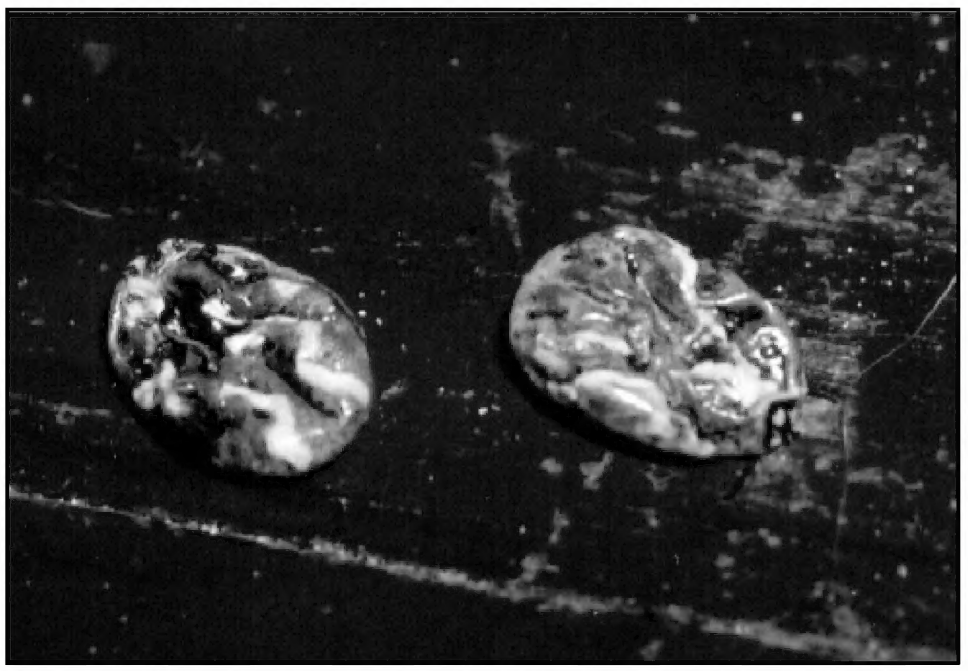
The ticks were not immediately detected, but were discovered by the author (RW) when the female would emit her 'hisss' warning behavior. When RW approached the lizard, he could hear an apparent blockage within her nasal passage when she emitted this noise. Upon further investigation, he detected numerous ticks upon this female's body. The ticks (*A. exornatum*, *A. flavomaculatum*) appeared abundant upon the female white-throat monitor lizard, particularly between her hind toes, foreleg armpits and in her nasal passages.

Shortly after the ticks were noticed, the female lizard's hind toes began to swell, to the point where the toes appeared to be abscessed. The swelling in the toes was at first thought to have been caused by a stress-related reaction induced by climate conditions, similar to a condition reported in captive savannah monitor lizards (Balsai and Bayless, 1993). This swelling malady was treated with Baytril® antibiotic for a 48-hour period. Following the antibiotic treatment, the swelling did reduce in size for a two-week period, but then returned. It was at this time that ticks were noticed very close to the swelling sites on three of her four feet.

The author (RW) had been consulting with the co-author (MB) regarding the malady, with both authors speculating that the ticks might have something to do with the toe swellings.



Goliath, a two-meter-long, 18 kg male white-throat monitor, *Varanus albigularis*. Photograph by Michael Fost.



Remains of two ticks smashed by Goliath. Photograph by Michael Fost.

The ticks were removed from the female white-throat monitor's toes with Betadine® and tweezers, and within a week's period, reduction in the swelling of her toes was observed. The ticks were apparently causing the inflammation and swelling among her digits.

A few days later, when attempting to inspect this female for further ticks, RW observed the female removing a tick from her own body, by taking her hind foot, and raking it across her body; this is known as "scratch grooming" behavior, as has been observed in wild impala (*Aepyceros melampus*) (Mooring, 1995). Following this scratch grooming, the ticks would fall off the lizard to the ground, whereupon she would pick up the ticks in her mouth and gently squeeze them within her mouth without breaking their bodies. The lizard would then drop the ticks from her mouth and using her chin like a bumper, she would smash the ticks with her chin, flattening and killing them. She would then either resume the scratch grooming, or engage in other behaviors (drinking, digging, sleeping etc.).

The author (RW) removed the remaining ticks that she could not reach from this female monitor's body; in time she began to trust RW with his tick-removing duties, and did not engage in agonistic behavior towards him. Betadine® solution, mixed 50–50 with water, was sprayed on this lizard's feet three times per day. Within a few days' time, the swellings began to noticeably dry up and shrink in size. It seems apparent that the ticks were the cause of these abscess-like growths upon this lizard's limbs.

An experiment was tried to see how the male *V. albigularis* would react to ticks within their respective enclosures. Ticks were found in the substrate (artificial grass) soon after the initial treatment for the female had been completed. These ticks were placed into the enclosure of the larger male, "Goliath" (2 m total length; 18 kg in weight), whereupon he immediately noticed the two ticks upon the floor of his enclosure. Like the female, he picked up the live tick in his mouth, squeezed it, dropped it onto the floor and summarily brought his chin down upon the tick's body like a pile driver, flattening the parasite with his chin. He did this to the other tick as well. Upon repeated experiments, additional ticks were placed into the enclosures of the three lizards, and all readily engaged in this tick removal/killing behavior.

Most of the hundreds of *V. albigularis* imported into the U.S. annually are infested with ticks, which can induce stress. Eventually the stressed animals may succumb to illness and even die (Bayless, 1991). As ticks also can be disease vectors (Taboada, 1967), it is significant that *V. albigularis* has demonstrated its ability to use its fore- and hind limbs to remove these parasites from their primary attachment sites.

Acknowledgments

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HerPET-POURRI

by Ellin Beltz

Long-term data on frog populations

Researchers in Switzerland have released data from their quarter-century-long studies of the common grass frog (*Rana temporaria*) in three areas of farmland outside of the town of Bern. Two of the three populations showed a pattern of several years of decline, followed by rebound. That the third population continued to decline was blamed on predation of tadpoles by invading goldfish. [*Science News*, April 4, 1998, from Mark Witwer]

Up close and personal with the Wyoming toad

The four-year-old Wyoming toad breeding program uses several techniques in an effort to simulate in-the-wild breeding conditions for the endangered toads. While the aquariums are flooded with water from Mortensen Lake (their last known breeding pond), and stereos play toad calls, the males and females get together and do what researchers keep hoping they'll do—produce fertile eggs. Wyoming toads are actually relatively easy to keep and breed in captivity say researchers. Despite intense efforts, no one knows why the toads, once common around Laramie, Wyoming, have become so rare. The last two dozen were taken from the wild in 1994 and put into the captive breeding program. Only six pairs of toads bred, but they had about 10,000 tadpoles. The tadpoles began to die and only a couple of hundred were saved. Water analysis showed high copper levels in the local water, so water from the lake was trucked in. By 1995, one-year-old toads were breeding at the center and successful breeding occurred in Zoos in Toledo, Cincinnati and Omaha. More than 3,500 tadpoles and toadlets were released into children's wading pools covered by fiberglass screen, but not restrained. The baby toads made their own way into Mortensen Lake, Lake George and Rush Lake. They were later found at all three lakes. Three age-classes were found last year at Mortensen Lake so this may be the first year that Wyoming toads will again breed in the wild. "We're violating the first law of reintroduction—you're supposed to solve the problem of what drove them to near extinction. And we don't know. . . . The species isn't by any means secure," said a biologist involved in the program. [*Wyoming Wildlife*, March 1998, from Mark Witwer]

Unclear on the concept at the [Jesse] helm?

U.S. Interior Secretary Bruce Babbitt signed a novel conservation agreement between federal, state and Native American governments in an effort to avoid legal battles over endangered wildlife. Later, he was taken on a tour of a man-made marsh that is intended to provide habitat for frogs. None were found as they were all still hibernating, with usual emergence around tax time. The Raleigh, NC *News and Observer* reports, " . . . a staffer gave Babbitt a plastic frog after he had jokingly wondered why the wildlife agency hadn't planted a few live ones for his trip." [April 3, 1998, from Wes and Kim von Papineäu]

Silent spring, 1998

- Alligators in lakes in Florida are showing some curious mortality and non-hatching egg patterns. Most affected are gators in lakes which are surrounded by agricultural, urban or commercial users. Least affected are gators in lakes in wildlife refuges, parks and other preserves. It could be a bloom of blue-green algae, or pesticides, or sewage or any of a dozen other nasties like no food, nutrient excess or something completely different. We don't know. But all the researchers agree that the problem requires immediate attention. Gators and people have a lot in common—we're both at the top of our food chains. [*News Press,* April 1, 1998, from Ardis Allen]

- For the first time in a four-year project at McHenry County Conservation District, all the eggs taken from female Blanding's turtles failed to develop. Researcher Sue Hayden said, "This was a bad year, all the eggs were infertile." She continues to pit-tag and enlist the aid of the Shedd Aquarium's turtle staff to help headstart offspring from previous years. Several adult turtles are radio-tagged and all collected by district staff are pit-tagged for positive identification purposes. [*WaterShedd*, 19(1), 1998, from Karen Furnweger]

- The Indiana Department of Natural Resources reports that deformed amphibians have been found four counties. The deformities included misshaped legs, missing eyes, missing limbs and split forelimbs. Katie Smith, of the Division of Fish and Wildlife said, "There are always a small percentage of deformed amphibians in a population. I'm hesitant as a scientist to make anything of this." She later states that the DNR cannot do a population survey of frogs to help put the deformity data in a statistically significant framework as there are only three biologists in the field for the agency and none is an expert on reptiles and amphibians. [Chesterton, IN *Tribune*, March 27, 1998, from Jack Schoenfelder] Does anybody have data on the small percentage of amphibians that are "always deformed" or is the lady just outside her field of expertise here?

- High water on a part of U.S. 441 over Paynes Prairie near Gainesville, Florida, has resulted in a killing field for alligators, snakes, turtles, frogs and birds. The state Department of Transportation has been patrolling to keep the floating orange barrel lane markers in place and to push wayward animals back into the flooded prairie. The agency now wants to put 3-foot-high barriers parallel to 441 across the prairie. [*Gainesville Sun*, April 2, 1998, from Kenneth C. Dodd, Jr.]

- About two dozen mutilated sea turtles have washed up on Texas beaches this spring, but two Kemp's ridley turtles have nested on South Padre Island. [*New York Times*, April 27, 1998] Meanwhile, National Marine Fisheries is not only requiring Turtle Excluder Devices on all shrimp trawls, now they require a finfish excluder to be mounted in the nets as well. [*WaterShedd*, 19(2), 1998, from Karen Furnweger] And the World Trade Organization used some twisted logic to overturn the U.S. policy that rejected imports of shrimp from

countries which do not require the use of Turtle Excluder Devices. [*Financial Times*, April 7, 1998, from P. L. Beltz]

News of the truly weird

Contributor Bill Burnett sent one of those round-up articles of the oddest stories of 1997. He circled "The Clouseau Award for Alertness by a Customs Officer: In Lima, a man was arrested for trying to smuggle 35 animals out of Peru in his suitcase. The contents of the bag included 17 monkeys, two boa constrictors and five crocodiles." On the opposite page was a hysterically funny photo of the crash of the Sinclair dinosaur balloon. When it came to rest on a house in Tulsa, Oklahoma, it looked as though it was eating the garage, while lying on the house! [*Arkansas Democrat–Gazette*, January 4, 1998] If only life truly imitated art.

Nice guys don't eat

China Daily reports: "HAIKOU - Fisherman Wang Mutang is happy that he was able to return a 100-year-old sea turtle to the sea, even though some of his friends are sorry that he turned down a chance to make money. Wang captured the turtle—1.9 meters long, 1.1 meters wide and weighing more than 250 kilograms on March 9 while deep sea fishing. Some buyers had contacted him with an offer as high as 4,000 yuan (US$481.92). However, upon learning that the turtle is a rare species under second-grade state protection that rarely survives life in captivity, Wang immediately decided to set it free." [March 27, 1998, from P. L. Beltz]

Imports ok, native commercialism not ok

• A California Fish and Game Commission voted four to nothing not to ban importation of live bullfrogs and turtles used for food and medicinal purposes by members of California's Asian community. Some of the arguments against importation were that some of the non-native animals were being released in Buddhist ceremonies and that introduced reptiles and amphibians could carry disease or outcompete local animals. Curiously, the bullfrogs are mostly imported from Taiwan and China. The turtles—spiny softshells and red-eared sliders—come from Texas, Arkansas and Florida. A spokesperson for the Fund for Animals said, "You can't catch hundreds of thousands of them and keep up with demand." [April 2, 1998: Contra Costa *Times* and *Los Angeles Times*, from Wes and Kim von Papineäu]

• The owner of a Zoological supply house in Warren, Michigan, said that the proposed new U.S. Fish and Wildlife Service regulations on humane shipping of amphibians and reptiles would "hurt the livelihoods of pet store owners as well as the people who catch exotic animals. . . . [He] picked up a chameleon, tortoise and a Sumatran python at Detroit Metropolitan Airport . . . [and] said restrictions on the trade of birds is already hurting the pet business," according to the *Herald-Palladium*. Teresa Telecky of the Humane Society of the U.S. said, "They're depleting their own resources anyway. Eventually there will be no more of these animals for them to catch. . . . They're paid only pennies. . . . It would be smarter to promote ecotourism. Many travelers are enjoying trips around the world to see wildlife, even reptiles." [April 12, 1998, from Claus Sutor]

My gator is purple, your gator is green

After coming face to face with an alligator, a New Bedford, Massachusetts, detective said, "[Criminals] have graduated from pit bulls to alligators," and added that law enforcement officials are increasingly finding big reptiles during busts of suspected drug houses. A public health veterinarian pointed out "you can't train a caiman to attack," and added, "I'd rather face one than a Rottweiler." [*Fox News Network*, March 18, 1998, from Wes and Kim von Papineäu]

Nearer my golf to thee

• Don't lick your balls, warns the medical establishment. Seems golfers are getting a dangerous chemical-induced liver condition in disproportionally high numbers because they lick their golf balls, thus ingesting fertilizers and pesticides used in abundance on the courses. [*Self Magazine*, May 1998, from I. Canreadtoo]

• As if that was not enough, *The Tribune* from Tempe, Arizona, warns "if playing golf on a desert course, don't reach for a ball that has landed in bushes or scrub. Snakes [especially rattlers] often seek shelter there. Instead, use a golf club or ball retriever to get the ball out." [April 2, 1998, from Tom Taylor]

Not just snake oil anymore

An ad for Lawson Software company [www.lawson.com/guide or (800) 477-1357] shows a coiled rattlesnake, a rattlesnake head with the fangs and tongue out and reads, "It charms its prey, strikes quickly and disappears. It's your typical business software company." The snake is identified as "*Smoothus Talkus Reptilius*." [from P. L. Beltz]

Range extension

An alligator was rescued by a fisherman from the Great Miami River near Middletown, Ohio. After occupying his family's bathroom for four days, it was taken for relocation by a member of the local herpetological society. The rescuer's wife said, "I'm glad it's gone. [He] did the right thing by not leaving it down there, but I'm happy it's out of my house." [*Telegraph-Forum*, Bucyrus, OH, December 21, 1997, from Bill Burnett]

Oregon Herpetological Society rises again

"Herpetoculture and herpetology are under attack in the United States. Hobbyists are going to prison, and spending massive amounts of time and money in court battles while super-collectors suck our ponds and lakes dry of turtles for the Asian food market. Raids on hobbyists look like assaults on crack houses. Inane state laws are being utilized to entrap hobbyists into committing federal offenses. The battles are being fought in the press. . . . Shipping regulations are being proposed that will literally shut this hobby down. . . . We can't wait around for PIJAC (Pet Industry Joint Advisory Council) to do something. They don't even have a web page." Unfortunately, the article in the latest Oregon Herpetological Society Newsletter (March 1998) forgot to put the web address, but you can

contact OHS at P.O. Box 1518, Eugene, OR 97440-1518 or by e-mail <webmaster@kingsnake.com> for more information and the site address.

Much better than LD-50, guys...

The Society for the Study of Amphibians and Reptiles has put out a brochure on "Conserving Amphibians and Reptiles." It suggests that "research must focus on causes and solutions, and conservation programs need to be on guard against 'half-way' technologies that provide a false sense of accomplishments." You can visit their website <http://falcon.cc.ukans.edu/~gpisani/conservation.html>. The debate on amateurs versus professionals has also apparently been rethought by this kinder, gentler bunch of herpetological researchers. The only citation provided in the brochure is for CHS member John Levell's excellent *Field Guide to Reptiles and the Law*. [Brochure from Ken Dodd]

Signs of our times

• Rather than the freeze-dried rattlesnake souvenirs first suggested when the Arizona Diamondbacks franchise baseball team was founded, the newest promotional tie in is a bottled beverage called the "Rattle Shake." It will be available at the ball park and convenience stores. [*Tribune*, Tempe, AZ, March 30, 1998, from Tom Taylor]

• Ann Landers is now running positive snake stories, which is quite a switch from a few years ago. Perhaps all the cards and letters helped change her mind. On the other hand, material published lately is likely to contribute to "snakes on the loose" media coverage in future. One of the suggestions she published read: "Snakes make great pets because you don't have to exercise them. If you live in an apartment, you can let them loose, and they will wriggle around on their own and enjoy themselves." Another read: "Snakes are cool. Anybody can have a cat or a dog, but having a snake makes you a celebrity. All the kids at school want to come to your house and look at it. I got an albino Burmese python from a kid at school whose mom wouldn't let him keep it. . . ." [March 16, 1998: *Chicago Tribune* and *Halifax Daily News*, from Ray Boldt and K & W Herp Haven respectively]

• "Dear Santa: I want a snake! I want a turtle! I want a big pair of socks. I want a clueless telephone. C.F., age 7. [*The Herald-Times*, December 11, 1997, from E. A. Zorn]

• Iguanas are the latest "in" pet in Hollywood. Thousands were given as living Christmas gifts and there is a Winged Iguana shop in Burbank where many of the glitterati come and go for stuff for their pets. One actor even hired a cook for his iguana on the movie set—saying that iguanas take so much time and he wanted to make sure his was well kept. [*Chicago Tribune*, December 16, 1997, from Claus Sutor]

One summer = 150 feet

"I have two three-toed box turtles (*Terrapene carolina triunguis*). Last year, I built a new outdoor enclosure, and on the first day of spring, September 21, I put most of my collection, including my box turtles in the new pen. At the end of that day, I took stock, and found one box turtle was missing. I frantically searched. . . . Eventually I gave up and gradually resigned myself to the loss, though, all through the summer, I peeked under the odd shrub, just in case. . . . In April, my other box turtle went into hibernation. I should mention that, here in the central North Island, we get heavy frosts, -8°C sometimes. Eight months later and in mid winter (July), my wife and I went away for a couple of weeks. On our arrival home, our daughter proudly announced that the missing box turtle had been found. . . . Some cattle . . . were just outside [our] fence. They came to a patch where the neighbor tipped grass cuttings and garden waste, munched up anything edible and must have disturbed one hibernating box turtle. Somehow, the turtle ended up in a pile of cow dung. [Our daughter] was walking the dog when she noticed a movement, and immediately recognized the culprit! The turtle had managed to walk about 50 meters during the entire summer! . . . [It] has been renamed 'Pat.'" [Nick Webb in *Moko*, the newsletter of the New Zealand Herpetological Society, Spring (our Fall), 1997 website <http://homepages.ihug.co.nz/~hoodoo/herpweb.html>]

Thanks to this month's contributors and to Ernie Liner, Karen Furnweger, Bill Burnett, Tom Taylor, Mark Witwer, Martin Felix, and Brian Bankowski for stuff I enjoyed reading but couldn't figure out how to summarize. You can contribute too. And I hope you will as I am down to just three articles for next month's column. Send whole pages of newspaper, or clippings with the date/publication slug firmly attached to: Ellin Beltz, 1647 N. Clybourn Avenue, Chicago, Illinois 60614-5507. Letters only to my Jurassic E-mail <ebeltz@ripco.com>.

Currently Happening Stuff

reported by Gary Kostka

Some like it hot . . .

Legions of lizard lovers gathered at the March 25 general meeting of the Chicago Herpetological Society, eager for the chance to hear featured speaker Randy Gray's talk covering the natural history, husbandry and breeding of uromastyx lizards. Randy did not disappoint, delivering a well polished presentation that was not only fascinating and informative, but thoroughly entertaining as well. Randy currently resides in Texas and is employed by the U.S. Government as a conservation biologist. He is a member of the CHS and was also one of the founding members of the Northern California Herpetological Society in the early 1980s. Randy has successfully kept and bred a variety of species of uromastyx, and his accomplishments with the genus have garnered him celebrity status among lizard enthusiasts of the herpetocultural community.

The first portion of Randy's presentation was devoted to introducing us to the different species of uromastyx (modern taxonomists recognize about 10) which are distributed across Northern Africa, through the Middle East and into India. Members of the family Agamidae, these spiny-tailed lizards have a wide, laterally flattened body and bear a number of similarities in both form and function to the chuckwallas of North America. They occupy an ecological niche in a region of the world that can only be described as inhospitable. Arid conditions and extreme temperatures render their domain uninhabitable to all but the most hardy of creatures. They eke out a living, foraging on the desert's sparse vegetation during the hottest part of the day (often 110°F or more), returning to their burrows to escape the chill of the desert night. I was amazed to learn that these burrows are often dug to a depth of 8–12 feet, no easy accomplishment considering the hard-packed consistency of the substrate in which they construct their homes. Water is also a rare commodity in this part of the world, with rain occurring as seldom as once or twice a year. Consummate survivalists, the uromastyx are able to obtain all the water they require from the vegetation they consume.

Randy began our course in Uromastyx 101 by relating a tale of his own attempts to observe the Moroccan uromastyx in its native environs during a trip he had taken to Morocco some 18 months before. Temperatures were in the mid 90s with a slight overcast during the first three days of his sojourn in the North African nation. All of Randy's efforts to locate the spiny-tailed lizards during this period had been for naught. On the fourth day, just as he'd begun to think that there might not be any uromastyx left in this country that he'd traveled half way 'round the world to get to, there was a break in the weather. Skies cleared, the temperature rose to over 100° and lo and behold . . . there were the elusive lizards scampering among the desert vegetation. It seems that the mid-90s temperatures of the previous three days had been a bit too chilly to spur the heat-loving agamids into a ction. They had simply remained in their burrows, waiting out the "cold spell" until the outside temperature became sufficiently high so as to allow them to achieve their optimal body temperature of 105°. Only then (at a temperature that would prove lethal to most other reptiles) did they venture out to forage for food.

Capturing the speedy Moroccan uromastyx for photographic purposes also proved to be more than a bit challenging. Randy admitted that he finally overcame this obstacle by either paying one of the local lads to dig them out of their burrows, or by simply purchasing the lizards from some children who lived in a nearby village. It seems that these young entrepreneurs had established a small roadside business selling uromastyx on a string to any passing tourists who might desire a living souvenir of their visit to Morocco. Randy noted that these lizards were all released back into the desert (minus their leashes) at the completion of their modeling duties.

Although I'm no lizard aficionado, I did manage to recognize a few of the species depicted in Randy's beautiful slides as he led us eastward along the Tropic of Cancer through the lands of the uromastyx. Especially spectacular were the pictures of the newly described species *Uromastyx maliensis*, commonly referred to as the Mali Uromastyx. Male and female Malis are sexually dichromatic, and are remarkably dissimilar in appearance. If prompted to describe the male, I would suggest that one imagine a black chuckwalla with a spiny tail, decorated across the back with a speckled blast of Da-Glo yellow spray paint. The contrast of the bright yellow pattern on a black background was striking to say the least, and endowed these lizards with an eye-catching beauty. Females of the species exhibited a far more subtle coloration, patterned as they were in varying shades of russet and brown.

Also achieving top honors in the category of phantasmagorical coloration were the males of the subspecies *Uromastyx ocellatus ornatus*. Commonly known as the ornate uromastyx, these guys really live up to their name with bodies adorned in fantastic patterns of fluorescent color ranging from turquoise to lime green to burnt orange. They make their home in Egypt's Sinai Peninsula and have adapted in several ways to meet the demands of their rocky habitat. A more cylindrical body form helps them negotiate narrow rock crevices, while a well developed leaping ability enables them to traverse the distances between the crags.

Several times during the course of his review of the genus, Randy alluded to the extreme pressures endured by certain

species of uromastyx because of overcollection for the pet trade. The 1977 listing of the entire genus in CITES Appendix II has helped to offset some of this problem by placing strict regulations on the exportation of the lizards. However, smuggling and the practice of exporting animals from countries other than that of their origin continues to place a strain on wild populations of a number of species. Egypt was exporting uromastyx by the thousands as late as 1995, when pressure from the world conservation community finally forced them to stop. In an article that he wrote for the August '95 issue of *Reptiles* magazine, Randy estimated that as many as 90 percent of the ornate uromastyx exported from Egypt at that time perished before ever reaching the hands of collectors. Unfortunately, Egypt's cessation of uromastyx exportation has forced the ever-hungry pet trade to focus its gluttonous attentions on the country of Mali, where the Mali uromastyx now finds itself in jeopardy of being collected out of existence.

Uromastyx, Texas Style . . .

It was a pleasure to listen to Randy discuss his techniques for the captive maintenance and breeding of uromastyx. He displayed the relaxed nonchalance of someone who has the confidence of his own convictions. I suppose that being one of the pioneers (and a successful one at that) in an area of herpetoculture that has still had only a limited number of successes might account for his demeanor. Like all great musicians, athletes, artists, etc., he practices his craft more by feel than by the book.

Living in Texas as he does, galvanized stock tanks are readily available and are Randy's enclosures of choice for his sizable collection of uros. Arranged in a multilevel configuration, the tanks occupy most of the available space in Randy's garage. The heat generated by the incandescent and full-spectrum bulbs suspended over the tanks is substantial and summertime temperatures in the garage can become quite hot. So hot in fact that Randy at times has felt compelled to drive the 30-mile distance from his office to his home during his lunch hour just to check on the well-being of his charges. He is currently in the process of downsizing his collection, and jokingly assured us that he has joined a program in an effort to assuage his obsession. Uromastyx Anonymous perhaps?

The setup for Randy's enclosures is extremely basic, consisting of a sand substrate, an inverted plastic saucer with an access hole which serves as a shelter and some stacked concrete landscaping blocks which allow the lizards to climb closer to the full spectrum bulbs. Randy admitted that in days gone by he'd been much more sophisticated in his approach to enclosure decor, providing the animals with elaborate winding tunnels constructed of flexible drier hose. However, too many episodes involving the extraction of reluctant uromastyx from the confines of their tunnel retreats was enough to sell Randy on the simple beauty of the inverted saucer system.

Randy feeds his animals a diet that begins with frozen mixed vegetables (thawed of course) to which he may add lentils, birdseed or greens (collard, turnip or mustard), depending on what he happens to have on hand. Prepared iguana food or chicken mash may also find their way into the mix. Feeding takes place roughly every other day, with the end result being some very robust and healthy-looking lizards. As for water, Randy never offers it.

We went on to learn the intricacies of sexing the various species of uromastyx and as most of you can probably guess size, coloration, femoral pores and hemipenal bulges or lack of same all play a part in solving the puzzle of gender identification.

Randy concluded his presentation with a brief discussion on the captive propagation of uromastyx lizards. After having successfully mated, a gravid female goes through a two-month period of gestation prior to egg deposition. Randy warned that gravid females may become aggressive and should be monitored closely if they are housed with other animals. Following completion of gestation, the female deposits as many as 20 eggs in a freshly dug hole in the sand of her enclosure. Randy noted that he creates a suitable site for the female to construct her nesting chamber by piling moistened sand to a depth of six inches at one end of the enclosure. Following deposition, he removes the eggs from the nest and places them in an incubator set to a temperature of 88–90°F. If all goes well, the eggs hatch out in approximately 10 weeks time.

Randy's pride in his accomplishments shone through as he commented on a slide depicting a tiny Moroccan uromastyx emerging from its shell. "The first time this happened I was extremely excited," said Randy, "Not as much as when my son was born, but it was pretty close."

Thanks to Randy Gray for sharing his time and expertise.

Eco-Fest . . .

Sunday, April 19, a small contingent of CHS members including Jenny Vollman, Ilene Sievert and me gathered at the Volo Bog Natural Area in Volo, Illinois, to take part in Eco-Fest '98. The event is a showcase for a variety of exhibits and activities related to conservation and ecology. We spent an enjoyable day answering questions about a number of the herps that we'd brought along to share with the visitors.

CHS Picnic Update . . .

It's confirmed! The proper permits have been secured and the CHS will be having a picnic this summer, thanks to the industrious efforts of member Audrey Vanderlinden. The date: Sunday, August 2. The place: Catherine Chevalier Woods on the Northwest side of Chicago. The time: Not completely sure, but stay tuned to this column for further details.

ReptileFest Update . . .

By the time you read this ReptileFest '98 will be but a memory, but at the time of this writing it has still yet to occur...confusing isn't it? At any rate, look to next month's "Stuff" for complete coverage of 'Fest '98.

Thanks for your indulgence. See you next month.

Bull. Chicago Herp. Soc. 33(5):108-109, 1998

Herpetology 1998

In this column the editorial staff presents short abstracts of herpetological articles we have found of interest. This is not an attempt to summarize all of the research papers being published; it is an attempt to increase the reader's awareness of what herpetologists have been doing and publishing. The editor assumes full responsibility for any errors or misleading statements.

HYBRID MOLE SALAMANDERS IN NEW YORK AND NEW ENGLAND

J. P. Bogart and M. W. Klemens [1997, American Museum Novitates 3218] note that salamanders of the genus *Ambystoma* present a confusing assemblage of species and hybrid combinations. In eastern North America, hybrids are thought to have originated from up to four distinct species and can be diploid, triploid, tetraploid or pentaploid. The authors reviewed the history of hybrid *Ambystoma* in North America and examined 1002 specimens from 106 sites in New York and New England to determine the present northeastern distribution of bisexual species and hybrid combinations. Because of the complex nature of the hybrids, it was important to use several methods to characterize the diploid bisexual species and the hybrids. Area measurements of erythrocyte nuclei provided a rough indication of ploidy but could not be used to distinguish genotypes. Electrophoretic examination of tissue isozymes when combined with chromosome counts proved to be useful for documenting the presence of *Ambystoma jeffersonianum* (JJ), *A. laterale* (LL), and six distinctive hybrid combinations (LJ, LLJ, LJJ, LLJJ, LLLJ, LJJJ; each letter designates a genome) in New York and New England. The two bisexual species were found to be mostly homozygous for alternate allozymes of several isozymes, which provided heterozygous patterns that were used to characterize the hybrids. Electrophoretic phenotypes were also used to demonstrate recombination and genome replacement among the hybrids. Seventy percent of the salamanders examined were hybrid females, and few sites contained only diploid bisexuals. Triploid hybrids are much more common than diploid or tetraploid hybrids (70% of specimens). The survey yielded very few hybrid males (0.8% of specimens). Hybrid populations are maintained by breeding with one of the diploid bisexual species, and the hybrid offspring are the result of gynogenetic or hybridogenetic reproduction. These hybrid salamanders represent a unique and dynamic genetic system in which the hybrids interact with the species through exchange of nuclear genomic DNA but maintain a hybrid cytoplasm.

A NEW SUBSPECIES OF THE MEDITERRANEAN GECKO

J. Moravec and W. Böhme [1997, Herpetozoa 10(3/4): 121-128] describe *Hemidactylus turcicus lavadeserticus*, a new subspecies of the Mediterranean gecko, from the black Syrian basalt desert. The new taxon differs from the nominotypic subspecies in having (1) anterior postmentals in contact with 2nd lower labials, (2) higher average number of lamellae under lst and 4th toe, (3) lamellae arranged more or less horizontally, (4) smaller and more weakly keeled dorsal tubercles, (5) the number of 6 longitudinal rows of tail tubercles restricted to the proximal part of tail, (6) lower number of preanal pores, (7) smaller body size, and (8) different color pattern.

APPARENT NONMENDELIAN INHERITANCE OF MELANISM IN THE GARTER SNAKE

R. G. Zweifel [1998, Herpetologica 54(1):83-87] reports that breeding experiments involving a melanistic female garter snake, *Thamnophis sirtalis*, (gravid when captured) and her striped, nonmelanistic offspring produced no melanistic young either in backcrosses to the mother (four broods, 68 young) or in crosses between sibling F_1s (two broods, 42 young). Multifactor (two-gene) inheritance does not explain the absence of melanistic young. Melanism in *T. sirtalis* has been attributed to homozygosity of a recessive allele. If this is the case, an environmental factor, possibly cold temperature during a critical period of development, may be required for expression of melanism.

A NEW FROG SPECIES FROM ORISSA, INDIA

S. K. Dutta [1997, Hamadryad 22(1):1-8] describes a new species of ranid, *Limnonectes orissaensis*, of the *L. limnocharis* complex, from Orissa State, eastern India. The new species is the largest among members of the complex in India except *L. nilagirica*, and differs from the latter in having relatively shorter hind limbs, rounded digit tips and relatively larger metatarsal tubercles. A discriminant function analysis of eight morphological characters of *L. orissaensis* and *L. limnocharis* from India and the Malay Peninsula indicates distinct differences.

A NEW SPECIES OF MONITOR WITH A BLUE TAIL

M. B. Harvey and D. G. Barker [1998, Herpetologica 54(1): 34-44] describe *Varanus yuwonoi*, a new species of mangrove monitor from Halmahera Island, Indonesia. The new species differs most dramatically from its congeners by having a blue tail, tines of tongue with xanthophores, the body of the tongue with a distal black band, the gular region not heavily pigmented, the dorsum melanic anteriorly, and large black blotches on its neck. The new species appears to be partially arboreal and joins *V. indicus* and *V. salvator* as the third monitor species known from Halmahera. The specific name *yuwonoi* honors Frank Bambang Yuwono of Jakarta, Indonesia, who greatly assisted the authors' research. As a common name, the authors propose that *V. yuwonoi* be referred to as the black-backed mangrove monitor.

A NEW AMPHISBAENIAN FROM CUBA

R. Thomas and S. B. Hedges [1998, J. Herpetology 32(1): 92-96] describe *Amphisbaena carlgansi*, a new species from the Cabo Cruz region of eastern Cuba. It shares with two other Cuban species, *Amphisbaena barbouri* (new rank) and *A. cubana*, fusion of the second supralabial and ocular scales. It is a pallid, long-tailed, xerophilic species associated with dry, coastal limestone habitats.

RUBBER BOA BODY TEMPERATURES

M. E. Dorcas and C. R. Peterson [1998, Herpetologica 54(1): 88-103] note that a current generalization regarding body temperature (T_b) variation in free-ranging reptiles is that, when possible, they maintain relatively high T_bs to optimize important biological functions. However, because this generalization is based primarily on studies using opportunistic spot measurements of diurnal lizards, it is both phylogenetically and ecologically biased in addition to under-representing inactive animals. They addressed these problems by continually monitoring T_b variation in free-ranging rubber boas (*Charina bottae*), a nocturnal boid. They surgically implanted temperature-sensitive radiotransmitters into 14 female snakes and monitored their T_bs at 5-min intervals for periods of up to a year (September 1990 to September 1992) using an automated monitoring system. Operative environmental temperatures were concurrently measured using physical snake models. They describe four daily T_b patterns, including a previously undescribed pattern in which snakes were nocturnally active, frequently at unusually low temperatures (modal activity temperature = 14°C). Nocturnal activity occurred about once every eight days. As found in previous studies, pregnant snakes maintained higher and less variable T_bs than nonpregnant snakes, which is likely important for maintaining a high developmental rate. Their results also support findings from another study in which the thermal environment prevented snakes from maintaining high, stable T_bs much of the time. However, unlike previous studies, they found that when unconstrained by the thermal environment, snakes did not maintain high stable T_bs much of the time. These results raise questions regarding the predictability of reptilian thermoregulation using environmental temperatures.

PLETHODONTID SALAMANDER BREEDING BIOLOGY

E. L. Jockusch and M. J. Mahoney [1997, Copeia (4):697-705] note that although plethodontid salamanders are characterized by a diversity of life histories, several aspects of their breeding biology are highly conserved. Two of these are solitary oviposition and attendance of clutches by females until hatching. The authors infer evolutionary changes in these reproductive features based on the discovery of oviposition sites and eggs of two species, *Batrachoseps nigriventris* and *B. wrighti*. *Batrachoseps nigriventris* deviates from the ancestral reproductive pattern in two ways: most clutches are laid at communal oviposition sites and female care has been lost. In contrast, *B. wtighti* may deviate from the ancestral pattern only in the loss of maternal care. A review of the reproductive biology of *Batrachoseps* and other plethodontids reveals that female attendance of eggs was lost in the ancestor of all *Batrachoseps*, whereas communal oviposition likely originated following the basal split within the genus. Additionally, communal oviposition and abandonment of clutches have evolved in two other plethodontid clades: *Nototriton*/*Oedipina* and *Hemidactylium*. Studies of taxa that have lost parental care may give insight into factors favoring the maintenance of parental care in other lineages.

DISTRIBUTION, ABUNDANCE AND BREEDING AREAS OF TWO SPECIES OF CAIMAN

R. Da Silveira et al. [1997, J. Herpetology 31(4):514-520] report that *Caiman crocodilus crocodilus* and *Melanosuchus niger* occur throughout most of the Anavilhanas Archipelago, located in the lower Rio Negro, Central Amazonia. Observed densities of these species varied from 0 to 58 per km of shoreline and 0 to 8 per km of shoreline, respectively. Multiple regression analysis indicated that the temperature difference between the water and the air, and water depth affected the observed density of *C. crocodilus* during spotlight surveys in the Archipelago. Percentage illumination by the moon, cloud cover, frequency of occurrence of grass, and food availability did not significantly affect the observed density of *C. crocodilus*. Nine hatchling groups of *M. niger* that hatched in 1992 were found on islands near the north bank of the Rio Negro, and 15 of 20 hatchling groups of *C. crocodilus* were found closer to the south bank, indicating a tendency for separation of nesting areas. Discriminant function analysis indicated that water depth and presence of grass were correlated with the occurrence of hatchling groups. *Melanosuchus niger* hatchling groups occurred in areas with deeper water and more grass than those of *C. crocodilus*. This study showed that surveying hatchling groups in the Anavilhanas Archipelago is more efficient than surveying for subadults and adults, which, by itself can give false impressions about the suitability of areas for conservation of breeding populations of these species.

PREY-HANDLING IN THREE SPECIES OF FISH-EATING SNAKES

A. Mori [1998, J. Herpetology 32(1):40-50] notes that the homalopsine species *Enhydris plumbea*, *Cerberus rynchops* and *Homalopsis buccata* are aquatic snakes with well developed Duvernoy's glands and grooved posterior maxillary teeth. He describes general features of the feeding behavior of these species based on laboratory observations. Effects of prey size and type on prey-handling behavior and ontogenetic change were investigated using neonate and young snakes. All feeding occurred under water. After seizing prey, snakes remained motionless for periods related to prey size and type. In some cases, snakes anchored the posterior part of the body on submerged stones during handling. Neonate *E. plumbea* occasionally dropped fish during positioning. In some cases, snakes showed a unique release-and-regrip maneuver for preingestion positioning of prey instead of the typical lateral jaw-walking maneuver. Ontogenetic change was observed only as the reduction of swallowing duration. Most fish were swallowed head-first regardless of size, whereas direction of ingestion of frogs and tadpoles depended largely on initial bite position. Although some prey animals were killed before swallowing, most were only weakened and swallowed alive. The author suggests that characteristics of prey-handling behavior of *E. plumbea*, *C. rynchops* and *H. buccata* are related to their aquatic and piscivorous habits. Particularly, obligatory head-first ingestion of fish seems to be an adaptation for piscivory. He also suggests that the primary biological role of Duvernoy's secretions of these snakes is to incapacitate prey animals to aid prey-handling.

Unofficial Minutes of the CHS Board Meeting, April 17, 1998

The meeting was called to order at 7:40 P.M. Mike Dloogatch, Ron Humbert and Jenny Vollman were absent.

Officers' and Committee Reports

The minutes of the March Board of Directors meeting were read, corrected and accepted.

The Treasurer's report was read and accepted.

Membership: Current membership is 1023. Gino Martinez reported that there have been several new members who submitted the website version of the invitation to join. The next items that will be printed and mailed are due-to-renew notices and membership cards. Gino will be sure to bring an updated membership list to the next general meeting for use at the library cart. Gino thanked Mike Dloogatch and John Driscoll for all their help with membership activities.

President: Steve Spitzer discussed plans to work on the budget for the next fiscal year.

Vice-president: The 1998 speaker list will be printed in time for distribution at ReptileFest. The June general meeting will be the annual show and tell meeting. There are only a couple of dates remaining in 1998 that don't have speakers. Jennie Picciola will call Dan Werner to confirm the date of his speaking appearance. Vice-president Jack Schoenfelder will represent the CHS at the public hearing on the Indiana Council on Amphibian and Reptile Laws in Plymouth, Indiana, Wednesday, April 22, 1998.

Library: Repairs to the damaged books will take place after ReptileFest.

Website: There have been nearly 1000 hits to the website thus far. The ReptileFest show information has been posted and a link to the fest information is active from Rebel Radio's website, <www.rebelradio.com>.

Grants Committee: April 1, 1998, was the deadline for grant application submission for the 1998 award selections. The committee will convene to proceed with the grant awards.

Shows: Karen Bielski, Tonya Maris, Jennie Picciola and Steve Spitzer are going to participate in the "Chances for Children" adoption fair. The CHS was invited to come again after last year's rave reviews. The CHS has also been asked to return to the Windy City Pet Show which is being held at the Odeum in Villa Park in October. More details to follow.

ReptileFest 1998: There are a record number of exhibitors and vendors signed up for ReptileFest this year. Other people and organizations participating in ReptileFest are the Chicago Academy of Sciences, the Minnesota Herpetological Society and Bob Applegate. The Klingons (Chicago local Star Trek chapter) have volunteered to assist with security. ReptileFest show information has been sent to all major newspapers and television stations in the area. Confirmation letters are being sent out to all vendors/exhibitors with detailed maps and directions. Directional signs will be posted in and around the venue the weekend of the show.

Old Business

Zoo Trip: There are seats still available for the bus trip to the St. Louis Zoo on June 14. A meeting/departure location has not yet been secured. Suggestions for all-day parking are needed.

CHS Picnic: A large "community" barbecue grill will be available for the August 2 CHS picnic as a convenience to picnic goers.

Bulletin Boxes: Boxes are still available for purchase.

Logo Decals: Decals with the CHS logo have been printed. They will be sold at ReptileFest and future general meetings for $1 each.

New Business

The CHS board voted unanimously in favor of allocating $100 and a complimentary one-year membership for each recipient of the Illinois Reptile and Amphibian Veterinary Medicine Award.

Round Table

A concerned citizen from the northern suburbs alerted the CHS to a mass drowning of salamanders. Steve Spitzer will call for more details.

Audrey expressed her joy at having Randy Gray speak at the March general meeting. She reported that he expressed the same excitement to her.

Jill Horwich recommended a potential speaker from the loggerhead sea turtle monitoring program.

Jennie Picciola showed the board the sample calcium supplement cups that will be available free at ReptileFest.

Bob Bavirsha will be at St. Joseph High School in Westchester talking with students about herps. He will have CHS membership information available to the students.

The meeting adjourned at 9:37 P.M.

Respectfully submitted by Recording Secretary Jennie Picciola

Advertisements

American Federation of Herpetoculturists: A nonprofit national membership organization of herpetoculturists, veterinarians, academicians and zoo personnel involved in the captive husbandry and propagation of amphibians and reptiles. Membership includes highly acclaimed magazine, *The Vivarium*, dedicated to dissemination of information on herpetocultural accomplishments, herp medicine, breeding and maintenance, field studies and adventures, enclosure design and much more. AFH membership is $26. Send information requests to: AFH-News, P.O. Box 300067, Escondido CA 92030-0067.

Artist wanted: My name is Jim Hatfield. I wrote the book, *Green Iguana—The Ultimate Owner's Manual* and I have an iguana column for *Vivarium* magazine. I am looking for some talented CHS member who could draw cartoons and/or iguana illustrations for my column and articles in other reptile magazines. Send me copies (*only*) of your work to: Jim Hatfield, P.O. Box 102, Lake Oswego OR 97034-0014. I will then get in contact with you.

Breeders' Expo: Atlanta Georgia's 3rd annual Breeders' Expo is September 5, 1998. **Only non-venomous, captive-bred animals**. Contact Georgia Herpetological Society, P.O. Box 464778, Lawrenceville GA 30046, or David Bowman at (770) 505-0547, for more information.

For sale: *Bulletin* boxes, $10 each. Library quality with "Chicago Herpetological Society" imprinted. Each container holds about two years' worth of *Bulletin*s. Send check or money order to Chicago Herpetological Society, 2060 N. Clark Street, Chicago IL 60614. Allow four weeks for delivery.

For sale: rats and mice—pinkies, fuzzies and adults. Quantity discounts. Please send a SASE for pricelist or call Bill Brant, *THE GOURMET RODENT*, 6115 SW 137th Avenue, Archer FL 32618, (352) 495-9024, E-mail <GrmtRodent@aol.com>.

For sale: murine-pathogen-free rats and mice available in all sizes, live or frozen: pinkies, fuzzies, crawlers, small, medium and large. Frozen crawler mice in lots of 2000, $.17 each. Also available, full grown hairless mice. FOB shipping point. Master Card accepted. Call (518) 537-2000 between 8:00 A.M. and 5:00 P.M. or write SAS Corporation, 273 Hover Avenue, Germantown NY 12526 for prices and additional information.

For sale: from **The Mouse Factory**, producing superior quality, frozen feeder mice since 1989. Our mice are frozen separately and vacuum-packed to greatly extend freezer life by reducing freezer burning and preserving vitamin and nutrient content. We feed our colony a nutrtionally balanced diet of Mouse Chow and four types of natural whole grains and seeds. Prices: pinkies, $25/100; fuzzies, $30/100; weaned, $35/100. Quantity discounts available. Ray Queen, P.O. Box 85, Alpine TX 79831. Call (800) 720-0076 or E-mail us at <mousefac@overland.net>. Fax (915) 837-0156.

For sale: from Bayou Rodents, excellent quality feeder mice and rats. Every size available. Pinks starting at $20/100. Orders are shipped by overnight service Monday thru Thursday. We accept Visa, MasterCard and Discover. For more info, contact Rhonda or Peggy, (800) 722-6102.

For sale: **high quality frozen feeders**. Over a decade of production and supply. Seven sizes of mice availabe: small newborn pinks up to jumbo adults. Prices start at $25 per 100. Feeders are separate in the resealable bag, not frozen together. Low shipping rates. Free price list. Kelly Haller, 4236 SE 25th Street, Topeka KS 66605, (913) 234-3358 evenings and weekends.

For sale: In stock, Flex-watt and Ultra-therm heating products. **Frozen rodents** always available. Mice: pinks–crawlers, 3/$1; weanlings, 40¢; subadult, 50¢; adults, 65¢; large adults, 75¢. Rats: small, 85¢–$1; medium, $1.25–2.00; large, $2.25–2.75; jumbo, 3/$10. Call on quantity discounts [note: discount on orders picked up at CHS meetings]. Live rodents available at higher prices. **Available now**: newsletter/catalog—many unique/hard-to-find herp husbandry items. Send business-size SASE for catalog, or call. Scott J. Michaels, D.V.M, Serpent City, P.O. Box 657, Island Lake IL 60042, (815) 363-0290.

For sale: Herp bags—colors vary, translucent ripcord nylon, super lightweight, extremely durable construction with hot corners sewn in, double seamed. Custom sizes made upon request. Sizes: 46" × 14", $7 each; 24" × 12", $6 each; 24" × 6", $5 each. Shipping fees, $1 for first bag, $.30 each additional bag. Nicole Lechowicz, 290 Warren Road, #69, Carbondale IL 62901, (618) 457-2783.

For sale: Selling most of my collection. Great prices—some freebies! Some herps, but mostly arachnids. Andy Davies, (773) 279-1541.

For sale: one male and four female redfoot tortoises, $150–200 each. Marc, (815) 293-0989 eves.

For sale: two Burmese brown tortoises, 6–7", captive born and raised, sex unknown, $300 each or $500 for both. Also, c.b. African spurred tortoises, $50 each. Will trade for other tortoises. Looking for Egyptian Greeks that were imported several years ago. I need males and also will buy hatchlings from this species. Please help. Bob, (520) 868-4659. [AZ]

For sale: Angel Island chuckwallas (*Sauromalus hispidus*) captive bred juveniles, approx. 2 to 3 years old, $300 each / $250 each for 3 or more. Limited number of females available. Captive bred *S.obesus obesus* and *S.o.tumidus* also available periodically. Brian Jones, weekdays between 7 and 9 P.M. is best, at (708) 418-8193, or E-mail <Chuckwala2@aol.com>.

For sale: eight c.b. '98 giant day geckos, $20 each; one male and one female c.b. '96 Standings day geckos, $200 pair; one male and three female c.b. '95 Argentine rainbow boas, $500 group; sevan male and eight female c.b. '98 Brazilian rainbow boas from iridescent orange-red adults, $150 each; exceptional Hog Island boa babies due in June, $75 to $150 each. Mark Wendling, (319) 857-4787.

For sale: 1-year-old albino striped and 1-year-old desert-phase banded Cal. kings; 2-year-old leopard gecko. Enclosures, set-ups, frozen mice, light bulbs and heat tape included. Make offer—Must sell—Moving. Call before noon or leave message any time. Mary, (773) 465-7978.

For sale: c.b. '98 hatchlings from the following projects. /***Drymarchon***/ Texas indigos (*D. corais erebennus*), $300 each; blacktail cribos (*D. c. melanurus*), $150 each; Mexican indigos (*D. c. rubidus*), $350 each; /***Pituophis***/ Louisiana pines (*P. ruthveni*), $275 each; albino bulls (*Pituophis melanoleucus sayi*), $150 each; anerythristic San Diego gophers, $125 each; /***getula***/ Outer Banks kingsnakes (*Lampropeltis getula sticticeps*), $200 each; Cal. kings (rare Davis locale), $40 each. Also, trans-Pecos blonde, hognose and Honduran projects. Call Brad for details (all hatchlings will be properly sexed and feeding). Brad Scialabba (Chicagoland), (708) 749-3864 after 6 P.M. or leave message.

For sale: one male and one female Brooks' kingsnakes, c.b. '95, bright yellow, $50 each; one male and one female 6' pine snakes, c.b. '95, high contrast, $50 each; one male and two female Mexican rosy boas, c.b. '95, $70 each; two adult female blue-tongue skinks, $100 each. Also, 4' Neodesha cage with glass doors, elongated vent, litter dam, like new, $160. (708) 361-5835.

For sale: **Tricolor hognose & albino boas**—Motivated to sell. While they last, South American tricolor hognose (*Lystrophis semicinctus*) hatchlings reduced to $500. 1997 male albino boa reduced to $2500. Taking deposits on 1998 albino boas at "below market price." Also, adult breeders of albino boa and tricolor hognose, from $7,000 to $35,000. GAINES REPTILES, INC. Bill Gaines, phone (317) 878-4042, voice-mail (800) 689-3040, E-mail <bgaines@iccnet.com>.

For sale: **Premium captive-produced reptiles**. **Piebald black pines**; Brazilian rainbow boas (Lamar); blonde trans-Pecos rat snakes; Baja rat snakes; gray-banded kingsnakes (Langtry); Okeetee corns; melanistic garters (double hets); Peruvian matamatas; Mexican redleg tarantulas. Also, feeder mice and rats, husbandry items, bedding, etc. Mike Stefani, (630) 372-3936.

For sale: beautiful, tricolor kingsnakes. Send SASE for **free** list. Also, free phone consultation on snake husbandry problems as a service to the herp community. Robert Applegate, P.O. Box 338, Campo CA 91906, (619) 478-5123. Thank you for your attention.

Advertisements (cont'd)

For sale: female D'Albert's python, beautiful, large, long term adult, $175; 8 male and 18 female leopard geckos, hi-yellow, stripe, jungles, all adult breeders, and one male white-line and one female fat-tail gecko, and 1 female Nicaraguan banded gecko, and two female Mojave Desert banded geckos, entire mixed gecko group, $750; male Children's python, adult, Barker Stock $125; creamsicle corn, $45; albino corn, $25; Mexican black king $35; 50/50 Cal king, $35; Pueblan milk, $40. Steve Bostwick (515) 274-4580. [IA]

For sale: Brazilian rainbow boas—2-year-old, 3' female, tame, healthy and a great eater, $250—7-month-old female, $175; lavender phase Cal. king, $50. Mark, Strictly Serpents, (847) 854-3259.

For sale: Send SASE to CRC, P.O. Box 0731, Las Vegas NV 89125-0731 for brochures and list of species available. Limited bookings available for guided tours of herpetological collection sites in Nevada. Call/fax (702) 450-0065. URL <http://www.herp.com/crc/> E-mail <crcsafetie@aol.com>.

Tours: Adventure tours to Madagascar! Join **Bill Love** seeing and photographing fauna and flora, heavily herp-biased, across the world's least known mini-continent. Maximum fun & photo ops assured on every trip. Contact him at: BLUE CHAMELEON VENTURES, P.O. Box 643, Alva FL 33920. TEL: (941) 728-2390, FAX: (941) 728-3276, E-MAIL: <blove@cyberstreet.com>.

Tours: **Road-riding in Costa Rica!** Treat yourself to the trip of a lifetime! Learn about tropical herps, find them, photograph them, see where they live. **Greentracks, Inc.**, offers the best herpetological tours led by internationally acclaimed herpetologists and herpetoculturists. See the Amazon, visit cloud forests, experience the world's greatest rainforest, super sunsets and good company. Call (800) 9-MONKEY.

Wanted: Any info on any herp clubs or happenings in the Memphis TN area. The geckos I have owned for one year I found out are Hawequa thick-toed geckos. Does anyone know of any books that cover the *Afroedura hawequensis* species? Any and all personal tips or clippings would give you a friend in Memphis forever. Kelli Swayne, 250 Glen Park Drive, Apt. #8, Cordova TN 38018.

Wanted: Anyone interested in starting a rodent-breeding business. I have cages, rats mice, auto water system etc. If you have property in the Chicago area and want to get involved, call me! Brad Scialabba, (708) 749-3864, leave message.

Wanted: big-headed turtles; mata mata turtles; Mexican giant mud turtles (*Staurotypus triporcatus*); exceptionally large common snappers (45 lbs. & up); large alligator snappers (over 90 lbs.); spectacled caiman from Trinidad, Tobago and Surinam; dwarf caiman; smooth-fronted caiman; albino turtles (except red-eared sliders). Walt Loose, (610) 926-6028, 9:00 A.M. – 1:00 P.M. or after 11:30 P.M. Eastern Time.

Wanted: Styrofoam boxes, any size or shape so long as they're not flimsy, preferably with cardboard liners, willing to pay from $2 to $5. Bring to CHS meetings. Scott J. Michaels, D.V.M, Serpent City, (815) 363-0290.

Line ads in this publication are run free for CHS members — $2 per line for nonmembers. Any ad may be refused at the discretion of the Editor. Submit ads to: Michael Dloogatch, 6048 N. Lawndale Avenue, Chicago IL 60659, (773) 588-0728 evening telephone, (312) 782-2868 fax, E-mail <MADadder0@aol.com>.

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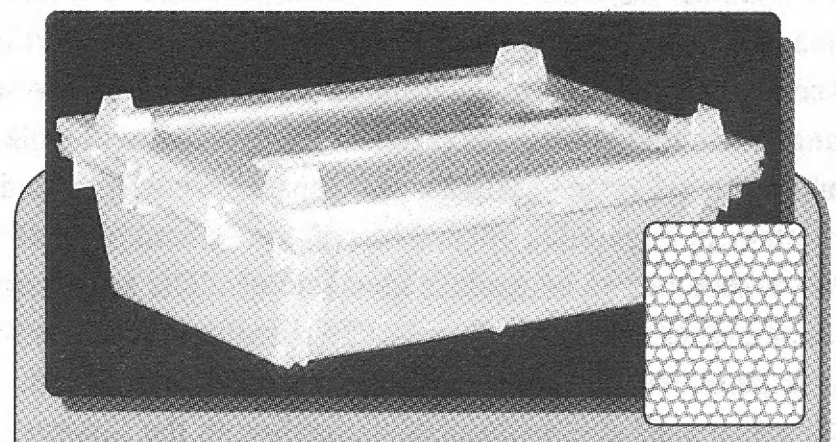

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UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, May 27, at the Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, in Chicago. **Dr. John Rossi**, a veterinarian from Jacksonville, Florida, and author of the two-volume set, *Snakes of the United States and Canada: Keeping Them Healthy in Captivity*, will give us an update on techniques for maintaining some snakes that are not commonly kept in captivity. Keeping and breeding the same old stuff has never been enough of a challenge for Dr. Rossi, whose two previous programs for the CHS have been nonstop barrages of superior slides of seldom-seen animals interwoven with new and exciting husbandry ideas.

Our annual **Show & Tell** meeting is set for June 24. This is traditionally our best-attended meeting. All members are encouraged to bring a favorite animal and to be prepared to come up on stage and tell us something about the animals they have brought.

We are required to use the entrance on the west side of the museum. **We are allowed to use the free parking lot to the west of the museum as long as space is available. Your best bet is to try that lot first before settling for the lot to the east of the museum or for the Soldier Field lot. For the latest on the parking situation call our CHS message line, (773) 281-1800, before you come.** Public transportation is an option: the Roosevelt Road (12th Street) bus now goes directly to the museum, thus providing a connection with the el and subway. This bus service runs until 11 P.M.

Turtle Club

The Chicago Turtle Club will meet Sunday, May 24, 1:00–3:30 P.M., at the North Park Village Administration Building, Room 105, 5801 N. Pulaski, in Chicago. This will be the CTC's 10th anniversary party, so bring party stuff if you want.

1998 INTERNATIONAL HERPETOLOGICAL SYMPOSIUM IN CINCINNATI

The 22nd annual meeting of the International Herpetological Symposium will take place June 25–27, 1998, at the Holiday Inn–Cincinnati Airport in Cincinnati, Ohio. The theme for the event will be: Are Captive Snakes Mere Caricatures of Their Wild Counterparts? In addition to a strong line-up of speakers, events will include a banquet and auction, a Cincinnati Zoo field trip and dinner, David Dennis/Eric Juterbock slide shows, workshops (photography; amphibian, turtle, lizard and snake husbandry), and a special celebration of the beginning days of the Ohio Herpetological Society. The banquet speaker will be Kraig Adler. Other speakers will include Elliott Jacobson, David Chiszar, Joe & Suzanne Collins, Jim Harrison, Johnny Arnett, Bernard Bechtel, Mike Goode, Harvey Lillywhite, Pete Strimple, Neil Ford, Aaron Bauer, Bill Love, Peter Tolson, Paul Weldon, Vince Scheidt, Eugene Bessette, Gordon Schuett, Sherman Minton, Robin Saunders and Gordon Burghardt. Registration will be $125 on or before May 15, $150 thereafter. For registration or other information contact: Stan Draper (IHS Secretary), P.O. Box 16444, Salt Lake City UT 84116-0444; E-mail <SDraper@npsp.com>.

MOVING??

Please let us know in plenty of time of any change in your mailing address. The *Bulletin of the Chicago Herpetological Society* is sent to our U.S. members by bulk-rate third class mail. This means that the U.S. Post Office will not forward your *Bulletin* with the rest of your mail. This is so even if you make a special request that your magazines be forwarded (such a request only applies to second class mail).

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